Claims

1. Refractometer with a refractometer prism, on the measuring surface of which a sample to be analyzed can be placed, which [sample] can be illuminated by a light source in such an angle range that the critical angle of the total reflection is also contained in it, and with a receiver, on which the reflected radiation falls,characterized in that the light source comprises a plurality of said discrete light sources (1), which can be activated individually or together, and their radiation can be sent in one point onto the refractometer in a bundled manner.

2. Refractometer in accordance with claim 1,characterized in that the light source comprises a plurality of white light lamps arranged at preset spaced locations next to one another.

3. Refractometer in accordance with claim 1, characterized in that the light source comprises a plurality of colored LEDs arranged at preset spaced locations next to one another.

4. Refractometer in accordance with claim 3, characterized in that a said interference filter (3), by means of which the light of the LEDs can be filtered to a desired wavelength, is arranged downstream of each LED.

5. Refractometer in accordance with one of the above claims, characterized in that the receiver is a one-dimensional CCD photodiode cell.

6. Refractometer in accordance with one of the above claims, characterized in that discrete light sources of the number n are provided, which are followed downstream by a said glass fiber bundle (5) with n inputs and one said output (6), wherein the said light sources are arranged on the input side in front of the different inputs of the said glass fiber bundle such that all wavelengths are represented at the output-side end of the said glass fiber bundle.

7. Refractometer in accordance with claim 6, characterized in that said lenses (2), which optimize the transmission of the light through the said interference filters (3) at the same time and make possible a more defined effective wavelength and full width at half-maximum, are provided to improve the coupling of the light into the discrete beam paths.

8. Refractometer in accordance with claim 1, characterized in that the light source comprises discrete light sources, whose radiations are reflected by means of a said optical diffraction grid (8) onto a point, where they are then coupled into a glass fiber.

9. Refractometer in accordance with claim 8, characterized in that the said discrete light sources are arranged such that at the selected angle of incidence they lead to a diffraction angle that is the same for all wavelengths.

10. Refractometer in accordance with claim 8, characterized in that a said direct vision prism with dispersing property (dispersion prism) is provided instead of the said optical diffraction grid.

11. Refractometer in accordance with claim 8, characterized in that a monochromatic lens is provided instead of the said optical diffraction grid.

12. Refractometer in accordance with claim 8,characterized in that a said transmission diffraction grid with dispersing property is provided instead of the said optical reflection diffraction grid.

13. Refractometer in accordance with one of the claims 1 through 7 characterized in that the said glass fiber bundle is designed such that it has a rectangular shape on the input side and a round shape on the output side, that the spectra of the said individual light sources are directed in parallel to the short side and are always longer than the width of the cross section converter, and that a section, which determines the spectral full width at half-maximum of the entering light, can be selected from the spectral distribution of the light exiting the glass fiber bundle.